AP Comp Sci A – No Intro - Part 1 - Jeroo

*Students who have **not** completed the Introduction to Computer Programming Course are expected to complete some exercises from the Intro Comp Prog course to help get you up to speed.*

1. Go to http://www.Jeroo.org

2. Download the software to your computer (two files, one is the icon)

3. Select Java as the language

Read through each PowerPoint in the ABOUT section on our Classroom. Complete the tasks from the list below. Save each project separately. Bring these .jsc files into schools for the first day of class. They will be collected and graded. (50 points)

Complete the following assignments using the program Jeroo. Read through the first Three PowerPoints 00, 01 and 02 to get an idea of what you are working with before beginning. The rest of the PowerPoints will help you as you progress.

1. **Letter:** Create a Jeroo that plants flowers in the shape of the initial for your first name.

2. **Pick and Plant**: Create a Jeroo that starts at (1,1) facing North with now flowers that picks a flower from (4,6) and (8,8) and then plants them side by side at (10,11) and (10,12) then moves one space off of the two flowers and turns back to face and admire them.

3. **Pick and Plant 2** Using the pick2 island, create a Jeroo that starts at (1,1) facing North with no flowers, that picks a flower from (4,6) and (8,8) and then plants them side by side at (10,11) and (10,12). The Jeroo then moves one space off of the two flowers and turns back to face and admire them.

4. **Pick and Plant 3** Using the pick3 island, create a Jeroo that starts at (1,1) facing North with no flowers, that picks a flower from (4,6) and (8,8) and then plants them side by side at (10,11) and (10,12). The Jeroo then moves one space off of the two flowers and turns back to face and admire them.

5. **Rows of Flowers** Review the material in the 03 Writing Methods PowerPoint. Using the default island and a Jeroo that starts with 20 flowers, plant them in rows of 4, with an empty row between each flower row. What commands will be repeated? Create at least 3 methods to make the Jeroo plant the flowers. Comment each method to explain what it is doing.

For each of the following assignments, the same code must work in all test islands from the islands folder. I will test it with further islands to make sure it accurately completes each task. Review 04 Control Structure and 04 Control Structure part 2.

6. **The Hurdle Race Problem**
Follow directions in the Hurdle Race Problem in the Jeroo folder.

7. **The Betrothal**
Open the betrothal word document and follow those instructions.

8. **Walk the Lake**
Follow the directions in the Walk the Lake problem.

9. **Pick All Flowers**
Follow the directions in the Pick all Flowers problem.

10. **The Maze**
Follow the directions in the Maze problem.

Part 2 - Summer Assignment P**reparation for AP CS**

You will need to install Java and BlueJ on your computer before the school year starts. Some of the summer assignment must be done within the BlueJ IDE.

JAVA & BLUEJ

Go to bluej.org and select the appropriate BlueJ and JDK for your operating system: Windows, Mac, Etc. If you run into any issues with the install, search Google for solutions to your issues. Post Comments on Google Classroom for more assistance **(code: jy9lho9).**

Part A Greenfoot (50 pts)

Download GreenFoot at http://www.greenfoot.org/download Review the content in the 6 tutorials on http://www.greenfoot.org/doc Students who completed the tutorials during intro should review the material before creating a *new* program this summer.

Create a program using the content reviewed in the above tutorials. Make sure to include
- **at least 2 different Actor Subclasses**
- **have one actor controlled by the keyboard**
- **Utilize the random number generator**
- **Create some sort of action on collision**
- **Create some counter that will interact with the collision events within the World**

Part B BlueJ (20 pts) – Required for all students:

Review the New Boston website tutorials 2-6 for some basics on Java.
https://thenewboston.com/videos.php?cat=31

Create the following two programs:

a) Create a class named "HelloWorld" that when run, it will print out the string "Hello World" to the console.
b) Create a class named "facePrint" that when run, it will print out a face to the console similar to the one below. Be creative and at least 5 lines should be printed.

```
/////////
|  o  o  |
|   >    |
|  (_)   |
|_____|
```

APCS Vocabulary

You should be familiar with the following terminology. Please define the following as it pertains to Computer Science. Submit these definitions on classroom by the first day of class. (10 points).

Java _____

Object _____

Program _____

Algorithm _____

Method _____

Class _____

Variable _____

Boolean _____

String _____

Parameter _____